# SCORE Search Results Details for Application 10613739 and Search Result us-10-613-739-1.rng.

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This page gives you Search Results detail for the Application 10613739 and Search Result us-10-613-739-1./ng

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OM nucleic - nucleic search, using sw model

Run on: December 30, 2005, 23:56:45; Search time 267 Seconds

(without alignments)

599.073 Million cell updates/sec

Title: US-10-613-739-1

Perfect score: 24

Sequence: 1 tcgtcgtttcgtcgttttgtcgtt 24

Scoring table: IDENTITY\_NUC

Gapop 10.0 , Gapext 1.0

Searched: 4996997 seqs, 3332346308 residues

Total number of hits satisfying chosen parameters: 9993994

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

Database: N\_Geneseq\_21:\*

1: geneseqn1980s:\*

2: geneseqn1990s:\* 3: geneseqn2000s:\*

4: geneseqn2001as:\*

5: geneseqn2001bs:

geneseqn2002as:\*

7: geneseqn2002bs:\*

8: geneseqn2003as:\*

9: geneseqn2003bs:\*

10: geneseqn2003cs:\*

11: geneseqn2003ds:\*
12: geneseqn2004as:\*

13: geneseqn2004bs:\*

14: geneseqn2005s:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

Result No.	Score	Query Match	Length	DB	ID	Description
1 2 3 4	24 24 24 24 24 24	100.0 100.0 100.0 100.0	24 24 24 24 24	12 12 12 12	ADI16114 ADK19213 ADK18990 ADK19212 ADO44306	Adi16114 Immunosti Adk19213 Immunosti Adk18990 Immunosti Adk19212 Immunosti Ado44306 Nucleotid
6	24	100.0	24	13	ADT04268	Adt04268 Novel imm

```
100.0
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                                     ADT04343
                                                                    Adt04343 Novel imm
          24
                           24
               100.0
                               13
                                     ADU23248
                                                                    Adu23248 Toll-like
9
10
12
13
14
          24
                          578
               100.0
                                6
                                   ABQ18805
                                                                   Abq18805 Oligonucl
                                                                   Abq18804 Oligonucl
Abq18198 Oligonucl
          24
24
24
24
23
               100.0
                          578
                                6
                                   ABQ18804
                          619
                                6
               100.0
                                   ABQ18198
                          619
                                                                   Abq18199 Oligonucl
               100.0
                                6
                                   ABQ18199
                               12
                                    ADP84798
                                                                    Adp84798 HIV subty
               100.0
                       10160
                95.8
                           23
                                12
                                     ADI16184
                                                                    Adi16184 Immunosti
15.
16
          23
              .. 95.8
                           23
                                12
                                                                    Adi16179 Immunosti
                                     ADI16179
                95.8
95.8
                                                                    Adi16162 Immunosti
Adi16175 Immunosti
          23
                           24
                                12
                                     ADI16162
          23
17
                           24
                                12
                                     ADI16175
          23
23
23
                           24
24
18
                95.8
                                12
                                     ADI16176
                                                                    Adi16176 Immunosti
19
20
                95.8
                                12
                                                                    Adi16163 Immunosti
                                     ADI16163
                95.8
                           24
                                12
                                     ADI16177
                                                                    Adi16177 Immunosti
21
22
23
24
          23
23
23
23
23
23
                95.8
                           24
                                12
                                                                    Adi 16178 Immunosti
                                     ADI16178
                           24
24
                95.8
                                                                    Adk19014 Immunosti
                                12
                                     ADK19014
                                                                    Adk19226 Immunosti
                95.8
                                12
                                     ADK19226
                95.8
                           24
                                12
                                                                    Adk19225
                                     ADK19225
                                                                               Immunosti
25
26
27
                           24
24
24
                                                                    Adk19227 Immunosti
                95.8
                                12
                                     ADK19227
                95.8
                                13
                                     ADT04367
                                                                    Adt04367 Novel imm
                93.3
                               2222233333
       22.4
                                   AAV60953
                                                                   Aav60953 Unmethyla
                           24
24
24
28
29
       22.4
22.4
                93.3
                                                                   Aav47689 Unmethyla
                                   AAV47689
                93.3
93.3
                                   AAV27664
                                                                   Aav27664 Immunosti
30
       22.4
                                   AAZ41936
                                                                   Aaz41936 IL-12 sec
                           24
24
31
       22.4
                93.3
                                   AAV83715
                                                                   Aav83715 Synthetic
                                                                   Aav74252 CpG-N mot
       22.4
                93.3
                                   AAV74252
33
       22.4
                93.3
                           24
                                   AAZ61001
                                                                   Aaz61001 Nucleotid
                93.3
                           24
24
24
34
       22.4
                                   AAZ48012
                                                                   Aaz48012 Immune re
       22.4
22.4
35
                                   AAZ47876
                                                                   Aaz47876 Immunosti
36
                93.3
                                   AAA39265
                                                                   Aaa39265 CpG immun
37
       22.4
                93.3
                           24
                                   AAZ47671
                                                                   Aaz47671 Parasitic
38
       22.4
                                3
                                                                   Aaa63588 Immune st
                93.3
                           24
                                   AAA63588
39
       22.4
                93.3
                           24
24
                                   AAA63586
                                                                   Aaa63586 Immune st
40
                93.3
                                                                   Aaa63598 Immune st
       22.4
                                   AAA63598
                                3
       22.4
22.4
                93.3
                           24
24
24
41
                                                                   Aac60280 Immunosti
                                   AAC60280
                93.3
                                   AAA93700
                                                                   Aaa93700 Unmethyla
       22.4
43
                93.3
                                4
                                   AAC87240
                                                                   Aac87240 CpG oligo
       22.4
                                                                   Aac87232 Immunosti
                93.3
                           24
                                4
                                   AAC87232
                                   AAC87231
                                                                   Aac87231 5'-amidat
```

C

### **ALIGNMENTS**

```
RESULT 1
ADI16114
ID
      ADI16114 standard; DNA; 24 BP.
XX
AC
      ADI16114;
XX
DT
      22-APR-2004 (first entry)
XX
DE
      Immunostimulatory oligodeoxynucleotide ODN 10104 SEQ ID NO:45.
XX
      ds; immunostimulatory; antibacterial; antiallergic; antiasthmatic; cytostatic; virucide; fungicide; antiparasitic; interleukin antagonist; gene therapy; infectious disease; allergy; asthma; cancer.
KW
KW
KW
XX
os
      Unidentified.
XX
      W02004005476-A2.
PN
XX
PD
      15-JAN-2004.
XX
PF
      03-JUL-2003; 2003WO-US021113.
XX
PR
      03-JUL-2002; 2002US-0393880P.
      03-JUL-2002;
PR
                       2002US-0394090P.
      03-JUL-2002;
                       2002US-0394091P.
PR
PR
      03-JUL-2002; 2002US-0394164P.
PR
      03-JUL-2002; 2002US-0394193P.
XX
       (COLE-) COLEY PHARM GROUP INC.
PA
XX
```

```
ΡI
        Krieg AM;
XX
DR
       WPI; 2004-091353/09.
XX
PT
        New immunostimulatory nucleic acid molecule composition comprising CpG
PT
        motifs, useful for diagnosing, preventing and/or treating infectious
        diseases, allergies, asthma and cancers.
PT
XX
PS
        Claim 1; SEQ ID NO 45; 257pp; English.
XX
CC
       The invention relates to a novel composition comprising an immunostimulatory nucleic acid molecule. A composition of the invention
has antibacterial, antiallergic, antiasthmatic, cytostatic, virucide, fungicide, and antiparasitic activity. A composition may act as an interleukin antagonist-4, or interleukin antagonist-5, and may have a use
        in gene therapy. The methods and compositions of the present invention
       are useful for diagnosing, preventing and/or treating infectious disease, allergy, asthma, cancer, where the infectious disease is a herpes simplex virus, bacterial, fungal or parasitic infection, and where the cancer is
        a biliary tract cancer, bone cancer, brain and CNS cancer, breast cancer,
        cervical cancer, choriocarcinoma, colon cancer, connective tissue cancer,
       endometrial cancer, oesophageal cancer, eye cancer, gastric cancer, Hodgkin's lymphoma, intraepithelial neoplasms, larynx cancer, lymphomas, liver cancer, lung cancer (e.g. small cell and non-small cell), melanoma, neuroblastomas, oral cavity cancer, overian cancer, pancreas cancer,
        prostate cancer, rectal cancer, sarcomas, skin cancer, testicular cancer,
CC
        thyroid cancer and renal cancer. The present sequence represents an
CC
        immunostimulatory nucleic acid molecule of the invention.
XX
SQ
        Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
   Query Match
                                        100.0%; Score 24; DB 12; Length 24;
   Best Local Similarity
                                        100.0%;
                                                   Pred. No. 1.3;
   Matches
                  24; Conservative
                                                  0; Mismatches
                                                                                                   0; Gaps
                                                                              0:
                                                                                  Indels
                                                                                                                     0;
Qy
                  1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                      Db
                  1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 2
ADK19213
        ADK19213 standard; DNA; 24 BP.
ID
XX
AC
        ADK19213;
XX
        20-MAY-2004 (first entry)
DT
XX
        Immunostimulatory nucleic acid #259.
DE
XX
       immunostimulatory nucleic acid; asthma; allergy; cancer; infectious disease; autoimmune disease; airway remodeling; chronic obstructive pulmonary disease; asthma; IL-6; interleukin-6; TNFalpha; tumour necrosis factor alpha; IFNalpha; interferon-alpha; IFNgamma; interferon-gamma; IP-10; interferon inducible protein; viral infection; bacteria infection; parasitic infection; ss.
KW
KW
KW
KW
KW
KW
XX
os
        Synthetic.
XX
PN
       W02004016805-A2.
XX
PD
        26-FEB-2004.
XX
PF
        19-AUG-2003; 2003wo-us025935.
XX
PR
        19-AUG-2002; 2002US-0404479P.
        19-AUG-2002; 2002US-0404820P.
27-NOV-2002; 2002US-0429701P.
14-FEB-2003; 2003US-0447377P.
PR
PR
PR
XX
PA
        (COLE-) COLEY PHARM GROUP INC.
PA
        (COLE-) COLEY PHARM GMBH.
XX
PΙ
        Krieg AM, Samulowitz U, Vollmer J, Uhlmann E, Jurk M, Lipford G;
```

```
ΡI
        Rankin R;
XX
DR
       WPI; 2004-257200/24.
XX
        New immunostimulatory nucleic acid molecule having pyrimidine-purine
PT
PT
        dinucleotide and a chimeric backbone, useful in treating and preventing
PT
        asthma, allergy, cancer, infectious disease, autoimmune disease or airway
PT
        remodeling.
XX
PS
        Example 10; SEQ ID NO 260; 276pp; English.
XX
CC
CC
        The invention relates to an immunostimulatory nucleic acid molecule
        comprising an internal pyrimidine-purine (YZ) dinucleotide and chimeric
CC
CC
CC
CC
CC
        backbone, where one internal YZ dinucleotide has a phosphodiester(-like)
       internucleotide linkage, where optionally each additional internal YZ dinucleotide has a phosphodiester(-like) or stabilised internucleotide linkage, where other internucleotide linkages are stabilised. The
        oligonucleotide is useful in stimulating or modulating an immune
        response. The medicament shifts the immune response to a Th1 biased
       response from a Th2 biased response. The oligonucleotide is also useful in the manufacture of a medicament for treating asthma, allergy, cancer, infectious disease, autoimmune disease, airway remodeling or chronic obstructive pulmonary disease or in treating a subject who is a smoker or who is free of symptoms of asthma. The oligonucleotide is useful in indusing cytoking expression as a Th 6 (interplayle of Thanks (tumour
CC
CC
CC
CC
CC
CC
       inducing cytokine expression, e.g. IL-6 (interleukin-6), TNFalpha (tumour necrosis factor alpha), IFNalpha (interferon-alpha), IFNgamma (interferon
       -gamma) and IP-10 (interferon inducible protein). The oligonucleotide is also useful in treating and preventing infections caused by viruses, bacteria and parasites. The present sequence represents an immunostimulatory nucleic acid.
CC
CC
CC
CC
XX
        Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
                                                     Score 24; DB 12; Length 24; Pred. No. 1.3;
   Query Match
                                         100.0%;
                                        100.0%; Pred. No. _
rive 0; Mismatches
   Best Local Similarity
   Matches
                   24; Conservative
                                                                                      Indels
                                                                                                      0; Gaps
                                                                                                                         0;
Qy
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                      Db
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 3
ADK18990
        ADK18990 standard; DNA; 24 BP.
ID
XX
AC
        ADK18990;
XX
DT
        20-MAY-2004 (first entry)
XX
        Immunostimulatory nucleic acid #37.
DE
XX
       immunostimulatory nucleic acid; asthma; allergy; cancer; infectious disease; autoimmune disease; airway remodeling; chronic obstructive pulmonary disease; asthma; IL-6; interleukin-6; TNFalpha; tumour necrosis factor alpha; interferon-alpha;
KW
KW
KW
KW
        IFNgamma; interferon-gamma; IP-10; interferon inducible protein;
KW
KW
        viral infection; bacteria infection; parasitic infection; ss.
XX
os
        Synthetic.
XX
PΝ
        WO2004016805-A2.
XX
PD
        26-FEB-2004.
XX
PF
        19-AUG-2003; 2003WO-US025935.
XX
PR
        19-AUG-2002; 2002US-0404479P.
        19-AUG-2002; 2002US-0404820P.
27-NOV-2002; 2002US-0429701P.
14-FEB-2003; 2003US-0447377P.
PR
PR
PR
XX
PA
        (COLE-) COLEY PHARM GROUP INC.
        (COLE-) COLEY PHARM GMBH.
```

```
PΙ
                       Samulowitz U, Vollmer J, Uhlmann E, Jurk M, Lipford G;
       Krieg AM,
PΙ
       Rankin R:
XX
       WPI; 2004-257200/24.
DR
XX
PT
       New immunostimulatory nucleic acid molecule having pyrimidine-purine
PT
       dinucleotide and a chimeric backbone, useful in treating and preventing
       asthma, allergy, cancer, infectious disease, autoimmune disease or airway
PT
PT
       remodeling.
XX
PS
       Claim 4; SEQ ID NO 37; 276pp; English.
XX
CC
       The invention relates to an immunostimulatory nucleic acid molecule comprising an internal pyrimidine-purine (YZ) dinucleotide and chimeric
CC
       backbone, where one internal YZ dinucleotide has a phosphodiester(-like) internucleotide linkage, where optionally each additional internal YZ dinucleotide has a phosphodiester(-like) or stabilised internucleotide linkage, where other internucleotide linkages are stabilised. The
CC
CC
CC
       oligonucleotide is useful in stimulating or modulating an immune
CC
       response. The medicament shifts the immune response to a Th1 biased
       response from a Th2 biased response. The oligonucleotide is also useful in the manufacture of a medicament for treating asthma, allergy, cancer, infectious disease, autoimmune disease, airway remodeling or chronic obstructive pulmonary disease or in treating a subject who is a smoker or
CC
CC
CC
CC
cc
       who is free of symptoms of asthma. The oligonucleotide is useful in
       inducing cytokine expression, e.g. IL-6 (interleukin-6), TNFalpha (tumour necrosis factor alpha), IFNalpha (interferon-alpha), IFNgamma (interferon
CC
       -gamma) and IP-10 (interferon inducible protein). The oligonucleotide is also useful in treating and preventing infections caused by viruses, bacteria and parasites. The present sequence represents an
CC
CC
\mathsf{CC}
CC
       immunostimulatory nucleic acid.
XX
       Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
SO
                                                 Score 24; DB 
Pred. No. 1.3;
   Query Match
                                      100.0%;
                                                                  DB 12; Length 24;
   Best Local Similarity
                                      100.0%;
                                                0; Mismatches
  Matches
                 24; Conservative
                                                                          0;
                                                                               Indels
                                                                                               0; Gaps
                                                                                                                 0:
Qу
                 1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                     1111111111111111111111111111
Db
                 1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 4
ADK19212
       ADK19212 standard; DNA; 24 BP.
ID
XX
AC
       ADK19212;
XX
DT
       20-MAY-2004 (first entry)
XX
DE
       Immunostimulatory nucleic acid #258.
XX
       immunostimulatory nucleic acid; asthma; allergy; cancer; infectious disease; autoimmune disease; airway remodeling;
KW
KW
KW
       chronic obstructive pulmonary disease; asthma; IL-6; interleukin-6;
KW
       TNFalpha; tumour necrosis factor alpha; IFNalpha; interferon-alpha;
KW
       IFNgamma; interferon-gamma; IP-10; interferon inducible protein;
KW
       viral infection; bacteria infection; parasitic infection; ss.
XX
os
       Synthetic.
XX
PN
       WO2004016805-A2.
XX
PD
       26-FEB-2004.
XX
PF
       19-AUG-2003; 2003WO-US025935.
XX
PR
       19-AUG-2002; 2002US-0404479P.
       19-AUG-2002; 2002US-0404820P.
27-NOV-2002; 2002US-0429701P.
14-FEB-2003; 2003US-0447377P.
PR
PR
PR
XX
```

```
PA
       (COLE-) COLEY PHARM GROUP INC.
PA
       (COLE-) COLEY PHARM GMBH.
XX
PΙ
       Krieg AM,
                      Samulowitz U, Vollmer J, Uhlmann E, Jurk M, Lipford G;
ΡI
       Rankin R;
XX
DR
       WPI: 2004-257200/24.
XX
PT
       New immunostimulatory nucleic acid molecule having pyrimidine-purine
PT
       dinucleotide and a chimeric backbone, useful in treating and preventing
PT
       asthma, allergy, cancer, infectious disease, autoimmune disease or airway
PT
XX
       remodeling.
PS
       Example 10; SEQ ID NO 259; 276pp; English.
XX
      The invention relates to an immunostimulatory nucleic acid molecule comprising an internal pyrimidine-purine (YZ) dinucleotide and chimeric backbone, where one internal YZ dinucleotide has a phosphodiester(-like) internucleotide linkage, where optionally each additional internal YZ
dinucleotide has a phosphodiester(-like) or stabilised internucleotide
       linkage, where other internucleotide linkages are stabilised. The
      oligonucleotide is useful in stimulating or modulating an immune response. The medicament shifts the immune response to a Th1 biased response from a Th2 biased response. The oligonucleotide is also useful in the manufacture of a medicament for treating asthma, allergy, cancer, infectious disease, autoimmune disease, airway remodeling or chronic
cc
CC
cc
       obstructive pulmonary disease or in treating a subject who is a smoker or
CC
       who is free of symptoms of asthma. The oligonucleotide is useful in
       inducing cytokine expression, e.g. IL-6 (interleukin-6), TNFalpha (tumour necrosis factor alpha), IFNalpha (interferon-alpha), IFNgamma (interferon-gamma) and IP-10 (interferon inducible protein). The oligonucleotide is also useful in treating and preventing infections caused by viruses,
CC
CC
CC
CC
       bacteria and parasites. The present sequence represents an
CC
       immunostimulatory nucleic acid.
XX
       Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
                                     100.0%;
   Query Match
                                                Score 24; DB 12; Length 24;
                                    100.0%; Pred. No. ___
                                                Pred. No. 1.3;
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   Matches
                 24: Conservative
                                                                        0: Indels
                                                                                           0; Gaps
                                                                                                            0;
Qy
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Db
                 1 TCGTCGTTTCGTCGTTTTGTCGTT 24
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AD044306
ID
       ADO44306 standard; DNA; 24 BP.
XX
AC
       AD044306;
XX
DT
       29-JUL-2004 (first entry)
XX
DE
       Nucleotide sequence of a CpG ODN of class B.
XX
KW
       HCV infection; CpG therapy; immunostimulatory; hepatotropic; virucide;
KW
       gene therapy; ss.
XX
0S
       Synthetic.
XX
PΝ
       WO2004039829-A2.
XX
PD
       13-MAY-2004.
XX
PF
       29-OCT-2003; 2003WO-IB005520.
XX
PR
       29-OCT-2002; 2002US-0421987P.
XX
PA
       (COLE-) COLEY PHARM GROUP LTD.
PA
       (COLE-) COLEY PHARM GMBH.
XX
PΙ
       Ahluwalia NK, Efler SM, Davis HL, Vollmer J;
XX
```

```
DR
        WPI; 2004-376156/35.
XX
PT
        Treating a patient having hepatitis C virus (HCV) infection that was not
        successfully treated using a previous non-CpG therapy comprises administering to a subject a CpG immunostimulatory nucleic acid.
PT
PΤ
XX
PS
        Example; SEQ ID NO 5; 89pp; English.
XX
CC
        The invention relates to treating a patient having hepatitis C virus
       (HCV) infection that was not successfully treated using a previous non-
CpG therapy. The method involves administering to a subject in need of
such treatment a CpG immunostimulatory nucleic acid in an amount
CC
CC
effective to treat the infection. In the treatment method, the non-CpG
        therapy includes interferon-alpha. The interferon-alpha is interferon-
        alpha-2b, interferon-alpha-2a or consensus interferon-alpha. The non-CpG
       therapy includes interferon-alpha or pegylated interferon-alpha and ribavirin. The CpG immunostimulatory nucleic acid is A, B or C class CpG immunostimulatory nucleic acid. The method further comprises administering interferon-alpha to the subject. The interferon-alpha is
        administered substantially simultaneously with the CpG immunostimulatory
CC
        nucleic acid. The CpG immunostimulatoy nucleic acid comprises a backbone modification, preferably a phosphorothionate backbone modification. The
\mathsf{CC}
       CpG immunostimulatory nucleic acid comprises a semi-soft backbone. The method is useful for treating a patient having hepatitis C virus (HCV) infection that was not successfully treated using a previous non-CpG therapy. Sequences ADO44302-ADO44317 represent examples of CpG oligodeoxynucleotides (ODN) which were used in the experiments to
CC
CC
CC
CC
CC
        exemplify the methods of the invention.
XX
SQ
        Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
   Query Match
                                          100.0%; Score 24; DB 12; Length 24;
   Best Local Similarity
                                          100.0%;
                                                      Pred. No. 1.3;
   Matches
                                                                                                         0; Gaps
                   24; Conservative
                                                     0; Mismatches
                                                                                  0:
                                                                                        Indels
                                                                                                                             0;
Qy
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                       1111111111111111111111111
Db
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 6
ADT04268
        ADT04268 standard; DNA; 24 BP.
ID
XX
AC
        ADT04268;
XX
DT
        30-DEC-2004 (first entry)
XX
DE
        Novel immunostimulatory oligonucleotide sequence SeqID150.
XX
        immune response; oil-in-water emulsion; immunostimulatory nucleic acid;
KW
KW
        cytostatic; antibacterial; virucide; fungicide; antiparasitic;
        dermatological; antipsoriátic; antiállergic; antimalarial; hepatotropic;
KW
        antiinflammatory; immunosuppressive; antiasthmatic; gastrointestinal-Gen; antiulcer; infectious disease; bacterial infection; fungal infection; viral infection; melanoma; basal cell carcinoma; cervical cancer;
KW
KW
KW
        contact dermatitis; eczema; psoriasis; atopic dermatitis; allergic contact dermatitis; latex dermatitis; oesophageal cancer;
KW
KW
        eye cancer; larynx cancer; oral cavity cancer; skin cancer; ovarian cancer; testicular cancer; parasitic infection; malaria; anaphylaxis; allergic rhinitis; allergic asthma; inflammatory bowel disease; Crohn's disease; ulcerative colitis; ss.
KW
KW
KW
KW
XX
os
        Unidentified.
os
        Synthetic.
XX
       W02004087203-A2.
PN
XX
PD
        14-OCT-2004.
XX
        01-APR-2004; 2004WO-IB001371.
PF
XX
        02-APR-2003; 2003US-0459920P. 10-APR-2003; 2003US-0461903P.
PR
PR
```

```
PA
         (COLE-) COLEY PHARM GROUP LTD.
XX
PΙ
         Davis HL. Mccluskie MJ;
XX
DR
        WPI; 2004-737575/72.
XX
PT
         Inducing immune response in subject useful for preventing and/or treating
PT
         viral infection e.g., human papilloma virus infection, involves topically
         administering oil-in-water emulsion and immunostimulatory nucleic acid,
PT
PT
         to subject.
XX
PS
        Claim 27; SEQ ID NO 150; 188pp; English.
XX
CC
        This invention relates to a novel method of inducing an immune response,
CC
        which involves topically administering to a subject an oil-in-water
        emulsion and an immunostimulatory nucleic acid to induce an immune response. The invention may be useful for the production of compounds
CC
CC
CC
        with a cytostatic, antibacterial, virucide, fungicide, antiparasitic,
         dermatological, antipsoriatic, antiallergic, antimalarial, hepatotropic,
CC
        antiinflammatory, immunosuppressive, antiasthmatic, gastrointestinal-Gen or antiulcer activity. The method is useful for inducing an immune response in a subject having cancer or an infectious disease, or at risk of developing an infectious disease such as bacterial infection, fungal infection or viral infection, where the subject is an immunocompromised subject. The cancer is chosen from melanoma, basal cell carcinoma and cervical cancer. The subject has or is at risk of developing a condition chosen from contact dermatitis.
CC
CC
CC
CC
\mathsf{CC}
CC
\mathsf{CC}
\mathsf{CC}
        chosen from contact dermatitis, eczema, psoriasis, atopic dermatitis, allergic contact dermatitis and latex dermatitis. The oil-in-water
CC
        emulsion and immunostimulatory nucleic acid of the invention is useful for treating a subject having oesophageal cancer, eye cancer, larynx cancer, oral cavity cancer, skin cancer, ovarian cancer and testicular cancer, parasitic infection caused by parasites such as Leishmania donovani, or Plasmodium falciparum, P malariae or P vivax causing malaria, infection caused by Staphylococcus or Escherichia coli infections or viral infections caused by Planatitic R virus or Hepatitic
CC
CC
CC
CC
CC
CC
        infection, or viral infections caused by Hepatitis B virus or Hepatitis C virus. The invention is useful in treating anaphylaxis, allergic rhinitis or allergic asthma, inflammatory bowel disease, Crohn's disease and ulcerative colitis. The invention is also useful for stimulating immune
CC
CC
\mathsf{CC}
CC
cc
        responses, useful in the prevention and/or treatment of the above-
mentioned diseases. The oil-in-water emulsion and the immunostimulatory
CC
CC
        nucleic acid of the invention is capable of inducing long lasting antigen -specific responses. The present sequence is that of an immunostimulatory oligonucleotide which may be used in the method of the invention.
CC
XX
         Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
                                                           Score 24; DB 13; Length 24; Pred. No. 1.3;
   Query Match
                                              100.0%;
                                             100.0%;
   Best Local Similarity
                                                          0; Mismatches
   Matches
                     24; Conservative
                                                                                          0; Indels
                                                                                                                   0; Gaps
                                                                                                                                         0;
Qy
                     1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                         Db
                     1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 7
ADT04343
ID
         ADT04343 standard; DNA; 24 BP.
XX
AC
         ADT04343;
XX
DT
         30-DEC-2004 (first entry)
XX
DE
         Novel immunostimulatory oligonucleotide sequence SeqID225.
XX
KW
         immune response; oil-in-water emulsion; immunostimulatory nucleic acid;
         cytostatic; antibacterial; virucide; fungicide; antiparasitic;
KW
         dermatological; antipsoriatic; antiallergic; antimalarial; hepatotropic;
KW
         antiinflammatory; immunosuppressive; antiasthmatic; gastrointestinal-Gen; antiulcer; infectious disease; bacterial infection; fungal infection;
KW
KW
KW
         viral infection; melanoma; basal cell carcinoma; cervical cancer;
         contact dermatitis; eczema; psoriasis; atopic dermatitis; allergic contact dermatitis; latex dermatitis; oesophageal cancer;
KW
KW
```

```
KW
       eye cancer; larynx cancer; oral cavity cancer; skin cancer;
      ovarian cancer; testicular cancer; parasitic infection; malaria; anaphylaxis; allergic rhinitis; allergic asthma; inflammatory bowel disease; Crohn's disease; ulcerative colitis; ss.
KW
KW
KW
XX
OS .
      Unidentified.
os
       Synthetic.
XX
FH
                             Location/Qualifiers
       Key
FT
       modified_base
                             1. .2
                             /*tag=
FT
FT
                             /mod_base= OTHER
FT
                             /note= "OTHER= Phosphorothioate backbone"
FT
       modified_base
                             3. .5
FT
                             /*tag=
FT
                             /mod_base= OTHER
FT
                             /note= "OTHER= Phosphorothioate backbone"
       modified_base
FT
                             6. .10
                             /*tag=
FT
FT
                             /mod_base= OTHER
                             /note= "OTHER= Phosphorothioate backbone"
FT
FT
       modified_base
                             11. .13
FT
                             /*tag=
                             /mod_base= OTHER
FT
FT
                             /note= "OTHER= Phosphorothioate backbone"
FT
       modified_base
                             14. .21
FT
                             /*tag=
                             /mod_base= OTHER
/note= "OTHER= Phosphorothioate backbone"
FT
FT
FT
       modified_base
                             22. .24
                             /*tag=
FT
FT
                             /mod_base= OTHER
                             /note= "OTHER= Phosphorothioate backbone"
FT
XX
PN
       WO2004087203-A2.
XX
PD
       14-OCT-2004.
XX
PF
       01-APR-2004; 2004WO-IB001371.
XX
PR
       02-APR-2003; 2003US-0459920P.
       10-APR-2003; 2003US-0461903P.
PR
XX
PA
       (COLE-) COLEY PHARM GROUP LTD.
XX
PΙ
       Davis HL, Mccluskie MJ;
XX
       WPI; 2004-737575/72.
DR
XX
PT
       Inducing immune response in subject useful for preventing and/or treating
PT
       viral infection e.g., human papilloma virus infection, involves topically
PT
       administering oil-in-water emulsion and immunostimulatory nucleic acid,
PT
       to subject.
XX
PS
       Disclosure; SEQ ID NO 225; 188pp; English.
XX
CC
       This invention relates to a novel method of inducing an immune response,
CC
       which involves topically administering to a subject an oil-in-water
      emulsion and an immunostimulatory nucleic acid to induce an immune response. The invention may be useful for the production of compounds with a cytostatic, antibacterial, virucide, fungicide, antiparasitic,
CC
CC
CC
       dermatological, antipsoriatic, antiallergic, antimalarial, hepatotropic,
      antiinflammatory, immunosuppressive, antiasthmatic, gastrointestinal-Gen or antiulcer activity. The method is useful for inducing an immune response in a subject having cancer or an infectious disease, or at risk of developing an infectious disease such as bacterial infection, fungal infection or viral infection, where the subject is an immunocompromised
CC
CC
CC
CC
CC
CC
       subject. The cancer is chosen from melanoma, basal cell carcinoma and
CC
       cervical cancer. The subject has or is at risk of developing a condition
       chosen from contact dermatitis, eczema, psoriasis, atopic dermatitis, allergic contact dermatitis and latex dermatitis. The oil-in-water
CC
CC
CC
       emulsion and immunostimulatory nucleic acid of the invention is useful
CC
       for treating a subject having oesophageal cancer, eye cancer, larynx cancer, oral cavity cancer, skin cancer, ovarian cancer and testicular
```

```
cancer, parasitic infection caused by parasites such as Leishmania donovani, or Plasmodium falciparum, P malariae or P vivax causing
cc
CC
CC
      malaria, infection caused by Staphylococcus or Escherichia coli
      infection, or viral infections caused by Hepatitis B virus or Hepatitis C virus. The invention is useful in treating anaphylaxis, allergic rhinitis or allergic asthma, inflammatory bowel disease, Crohn's disease and ulcerative colitis. The invention is also useful for stimulating immune
CC
CC
CC
CC
CC
       responses, useful in the prevention and/or treatment of the above-
      mentioned diseases. The oil-in-water emulsion and the immunostimulatory
CC
      nucleic acid of the invention is capable of inducing long lasting antigen -specific responses. The present sequence is that of an immunostimulatory oligonucleotide which may be used in the method of the invention.
CC
CC
CC
XX
       Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
                                     100.0%; Score 24; DB 13; Length 24; 100.0%; Pred. No. 1.3;
  Query Match
                                    100.0%; Preg. No. _____
rive 0; Mismatches
  Best Local Similarity
  Matches
                24; Conservative
                                                                        0; Indels
                                                                                            0; Gaps
                                                                                                              0;
                 1 TCGTCGTTTCGTCGTTTTGTCGTT 24
Qy
                    1111111111111
Db
                 1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 8
ADU23248
ID
      ADU23248 standard; DNA; 24 BP.
XX
AC
      ADU23248;
XX
DT
      27-JAN-2005 (first entry)
XX
DE
      Toll-like receptor 9 (TLR9) ligand oligonucleotide - SEQ ID 142.
XX
KW
       screening; Toll-like receptor agonist; TLR agonist;
       Toll-like receptor 9 ligand; TLR9 ligand; ss.
KW
XX
os
      Unidentified.
XX
PΝ
      WO2004094671-A2
XX
PD
      04-NOV-2004.
XX
PF
       22-APR-2004; 2004wo-us012788.
XX
      22-APR-2003; 2003US-0464586P. 22-APR-2003; 2003US-0464588P.
PR
PR
XX
PA
       (COLE-) COLEY PHARM GMBH.
PA
       (COLE-) COLEY PHARM GROUP INC.
XX
ΡI
       Vollmer J, Jurk M, Lipford GB, Schetter C, Forsbach A, Krieg AM;
XX
DR
       WPI: 2004-795573/78.
XX
PT
      Identifying agonists of Toll-like receptor (TLR) signaling activity, useful therapeutically or prophylactically, comprises contacting an
PT
PT
       RPMI8226 cell that expresses a TLR with a test compound and measuring TLR
PT
       signaling activity.
XX
PS
       Claim 166; SEQ ID NO 142; 342pp; English.
XX
CC
       The invention comprises a screening method for identifying agonists of
       Toll-like receptor (TLR) signalling activity. The method involves
      contacting an RPMI8226 cell (that expresses a TLR) with a test compound, and measuring a test level of TLR signalling activity, where a test level that is positive is indicative of a test compound that is a TLR agonist. The method of the invention is useful for identifying agonists of TLR.
CC
CC
CC
CC
CC
       The present DNA sequence represents a TLR9 ligand of the invention.
XX
SO
       Sequence 24 BP; 0 A; 5 C; 6 G; 13 T; 0 U; 0 Other;
   Query Match
                                     100.0%;
                                                 Score 24; DB 13; Length 24;
  Best Local Similarity
                                     100.0%;
                                                Pred. No. 1.3;
```

Determining the degree of cytosine methylation in genomic DNA, useful for diagnosis and prognosis, comprises selective hybridization of amplicons from chemically treated DNA.

Claim 12; 56pp + Sequence Listing; 56pp; German.

This invention describes a novel method for determining the degree of methylation of a particular cytosine in a motif 5'-CpG-3', present in a genomic sample of DNA. The sample is treated chemically to convert cytosine (C) but not methylated C, to uracil, then part of the genomic DNA that contains the target C is amplified to form a labeled amplicon. The amplicon is hybridised to two classes, each with at least one member, of oligonucleotides and/or peptide-nucleic acid (PNA) oligomers and the degree of hybridisation to both classes is determined from the label on the amplicon. From the ratio of labels hybridised to the two classes of oligomers, the degree of methylation is calculated. The method is used: (i) for diagnosis and/or prognosis of side effects of therapeutic drugs and of a wide range of diseases, e.g. cancer, disorders of the central nervous, cardiovascular, gastrointestinal and respiratory systems etc., particularly by detecting mutations or single nucleotide polymorphisms (SNP's); and (ii) for differentiation. The method allows the methylation investigating cell differentiation. The method allows the methylation

Query Match 100.0%; Score 24; DB 6; Length 578; Best Local Similarity 100.0%; Pred. No. 1.3; Matches 24; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

status of many C residues to be determined simultaneously. ABQ13410-ABQ54121 represent genomic DNA sequences used to illustrate the method for determining the degree of cytosine methylation described in the

Sequence 578 BP; 337 A; 110 C; 97 G; 23 T; 0 U; 11 Other;

disclosure of the invention

XX PS

XX CC

CC

XX SQ

```
93 TCGTCGTTTCGTCGTTTTGTCGTT 70
```

Db

```
RESULT 10
ABQ18804
ID
       ABQ18804 standard; DNA; 578 BP.
XX
AC
       ABQ18804;
XX
DT
       12-JUL-2002 (first entry)
XX
       Oligonucleotide for detecting cytosine methylation SEQ ID NO.53951
DE
XX
KW
       Human; cytosine methylation; 5'-CpG-3'; uracil; cytosine; diagnosis;
KW
       drug; side effect; cancer; central nervous system; cardiovascular;
       gastrointestinal; respiratory system; single nucleotide polymorphism;
KW
KW
       SNP; cell differentiation; ds.
XX
0S
       Homo sapiens.
XX
PN
       WO200218632-A2.
XX
PD
       07-MAR-2002.
XX
PF
       01-SEP-2001: 2001WO-EP010074.
XX
       01-SEP-2000; 2000DE-01043826.
05-SEP-2000; 2000DE-01044543.
PR
PR
XX
       (EPIG-) EPIGENOMICS AG.
PA
XX
PΙ
       Olek A, Piepenbrock C, Berlin K, Guetig D;
XX
DR
       WPI; 2002-371829/40.
XX
PT
       Determining the degree of cytosine methylation in genomic DNA, useful for
PT
       diagnosis and prognosis, comprises selective hybridization of amplicons
PT
       from chemically treated DNA.
XX
PS
       Claim 12; 56pp + Sequence Listing; 56pp; German.
XX
       This invention describes a novel method for determining the degree of methylation of a particular cytosine in a motif 5'-CpG-3', present in a genomic sample of DNA. The sample is treated chemically to convert
CC
\mathsf{CC}
cc
       cytosine (C) but not methylated C, to uracil, then part of the genomic DNA that contains the target C is amplified to form a labeled amplicon.
The amplicon is hybridised to two classes, each with at least one member, of oligonucleotides and/or peptide-nucleic acid (PNA) oligomers and the degree of hybridisation to both classes is determined from the label on the amplicon. From the ratio of labels hybridised to the two classes of
       oligomers, the degree of methylation is calculated. The method is used:
       (i) for diagnosis and/or prognosis of side effects of therapeutic drugs and of a wide range of diseases, e.g. cancer, disorders of the central nervous, cardiovascular, gastrointestinal and respiratory systems etc., particularly by detecting mutations or single nucleotide polymorphisms (SNP's); and (ii) for differentiation of cell or tissue types and for investigating cell differentiation. The method allows the methylation status of many C residues to be determined simultaneously. Apol3410-
cc
CC
        status of many C residues to be determined simultaneously. ABQ13410-
CC
       ABQ54121 represent genomic DNA sequences used to illustrate the method
CC
        for determining the degree of cytosine methylation described in the
CC
       disclosure of the invention
XX
       Sequence 578 BP; 23 A; 97 C; 110 G; 337 T; 0 U; 11 Other;
                                                   Score 24; DB 6; Length 578; Pred. No. 1.3;
   Query Match
                                        100.0%;
   Best Local Similarity
                                       100.0%;
                  24; Conservative
                                                  0; Mismatches
   Matches
                                                                              0; Indels
                                                                                                   0: Gaps
                                                                                                                      0;
Qy
                  1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                      111111111111111111
               486 TCGTCGTTTCGTCGTTTTGTCGTT 509
Db
```

```
AB018198
       ABQ18198 standard; DNA: 619 BP.
ID
XX
        ABQ18198;
AC
XX
DT
        12-JUL-2002 (first entry)
XX
        Oligonucleotide for detecting cytosine methylation SEQ ID NO 4789.
DE
XX
KW
        Human; cytosine methylation; 5'-CpG-3'; uracil; cytosine; diagnosis;
KW
        drug; side effect; cancer; central nervous system; cardiovascular;
KW
        gastrointestinal; respiratory system; single nucleotide polymorphism;
KW
        SNP; cell differentiation; ds.
XX
os
        Homo sapiens.
XX
PN
       WO200218632-A2.
XX
PD
        07-MAR-2002.
XX
PF
        01-SEP-2001; 2001wo-EP010074.
XX
PR
        01-SEP-2000; 2000DE-01043826.
PR
        05-SEP-2000; 2000DE-01044543.
XX
PA
        (EPIG-) EPIGENOMICS AG.
XX
ΡI
        Olek A, Piepenbrock C, Berlin K, Guetig D;
XX
DR
       WPI; 2002-371829/40.
XX
PT
        Determining the degree of cytosine methylation in genomic DNA, useful for
PT
        diagnosis and prognosis, comprises selective hybridization of amplicons
PT
        from chemically treated DNA.
XX
PS
        Claim 12; 56pp + Sequence Listing; 56pp; German.
XX
CC
        This invention describes a novel method for determining the degree of
       methylation of a particular cytosine in a motif 5'-CpG-3', present in a genomic sample of DNA. The sample is treated chemically to convert cytosine (C) but not methylated C, to uracil, then part of the genomic DNA that contains the target C is amplified to form a labeled amplicon.
CC
CC
cc
       The amplicon is hybridised to two classes, each with at least one member, of oligonucleotides and/or peptide-nucleic acid (PNA) oligomers and the degree of hybridisation to both classes is determined from the label on the amplicon. From the ratio of labels hybridised to the two classes of oligomers, the degree of methylation is calculated. The method is used: (i) for diagnosis and/or prognosis of side effects of therapeutic drugs and of a wide range of diseases, e.g. cancer, disorders of the central nervous, cardiovascular, gastrointestinal and respiratory systems etc., particularly by detecting mutations or single nucleotide polymorphisms
CC
CC
cc
CC
       particularly by detecting mutations or single nucleotide polymorphisms (SNP's); and (ii) for differentiation of cell or tissue types and for investigating cell differentiation. The method allows the methylation status of many C residues to be determined simultaneously. ABQ13410-
CC
CC
CC
CC
        ABQ54121 represent genomic DNA sequences used to illustrate the method
CC
        for determining the degree of cytosine methylation described in the
        disclosure of the invention
CC
XX
SQ
        Sequence 619 BP; 69 A; 66 C; 167 G; 317 T; 0 U; 0 Other;
                                         100.0%;
   Query Match
                                                      Score 24; DB 6; Length 619;
   Best Local Similarity
                                         100.0%;
                                                       Pred. No. 1.3;
                                                    0; Mismatches
                   24; Conservative
                                                                                 0: Indels
                                                                                                       0: Gaps
                                                                                                                          0:
Qy
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                       Db
                352 TCGTCGTTTCGTCGTTTTGTCGTT 375
RESULT 12
ABQ18199/c
ID
        ABQ18199 standard; DNA; 619 BP.
XX
        ABQ18199;
AC
```

```
DT
        12-JUL-2002 (first entry)
XX
       Oligonucleotide for detecting cytosine methylation SEQ ID NO 4790.
DE
XX
KW
        Human; cytosine methylation; 5'-CpG-3'; uracil; cytosine; diagnosis;
KW
       drug; side effect; cancer; central nervous system; cardiovascular;
KW
        gastrointestinal; respiratory system; single nucleotide polymorphism;
KW
        SNP; cell differentiation; ds.
XX
os
        Homo sapiens.
XX
PΝ
        WO200218632-A2.
XX
PD
        07-MAR-2002.
XX
        01-SEP-2001; 2001WO-EP010074.
PF
XX
PR
        01-SEP-2000; 2000DE-01043826.
PR
        05-SEP-2000; 2000DE-01044543.
XX
PA
        (EPIG-) EPIGENOMICS AG.
XX
PΙ
        Olek A, Piepenbrock C, Berlin K, Guetig D;
XX
DR
        WPI; 2002-371829/40.
XX
PT
        Determining the degree of cytosine methylation in genomic DNA, useful for
        diagnosis and prognosis, comprises selective hybridization of amplicons
PT
PT
        from chemically treated DNA.
XX
PS
        Claim 12; 56pp + Sequence Listing; 56pp; German.
XX
CC
       This invention describes a novel method for determining the degree of methylation of a particular cytosine in a motif 5'-CpG-3', present in a genomic sample of DNA. The sample is treated chemically to convert cytosine (C) but not methylated C, to uracil, then part of the genomic DNA that contains the target C is amplified to form a labeled amplicon. The amplicon is hybridised to two classes, each with at least one member, of oligonucleotides and/or peptide-nucleic acid (PNA) oligomers and the degree of hybridisation to both classes is determined from the label on the amplicon. From the ratio of labels hybridised to the two classes of oligomers, the degree of methylation is calculated. The method is used: (i) for diagnosis and/or prognosis of side effects of therapeutic drugs and of a wide range of diseases, e.g. cancer, disorders of the central nervous, cardiovascular, gastrointestinal and respiratory systems etc., particularly by detecting mutations or single nucleotide polymorphisms
        This invention describes a novel method for determining the degree of
CC
CC
CC
CC
CC
CC
cc
\mathsf{CC}
        particularly by detecting mutations or single nucleotide polymorphisms (SNP's); and (ii) for differentiation of cell or tissue types and for investigating cell differentiation. The method allows the methylation
CC
cc
        status of many C residues to be determined simultaneously. ABQ13410-
        ABQ54121 represent genomic DNA sequences used to illustrate the method
CC
        for determining the degree of cytosine methylation described in the
CC
        disclosure of the invention
XX
        Sequence 619 BP; 317 A; 167 C; 66 G; 69 T; 0 U; 0 Other;
                                          100.0%;
                                                         Score 24; DB 6;
                                                                                     Length 619;
                                          100.0%;
                                                        Pred. No. 1.3;
   Best Local Similarity
   Matches
                   24; Conservative
                                                      0; Mismatches
                                                                                   0: Indels
                                                                                                          0: Gaps
                                                                                                                              0:
Qy
                    1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                       Db
                268 TCGTCGTTTCGTCGTTTTGTCGTT 245
RESULT 13
ADP84798
ID
        ADP84798 standard; DNA; 10160 BP.
XX
        ADP84798;
AC
XX
        23-SEP-2004 (first entry)
DT
XX
        HIV subtype B vaccine DNA.
```

```
KW
        eliciting; inducing; immune response; HIV; antigen; non-pathogenic;
KW
       vaccination; vaccine; HIV-I; ds.
XX
os
       Human immunodeficiency virus 1.
XX
       W02004056391-A1.
PN
XX
PD
       08-JUL-2004.
XX
PF
       19-DEC-2003; 2003WO-AU001705.
XX
PR
        20-DEC-2002; 2002AU-00953556.
PR
       17-SEP-2003; 2003AU-00905067.
XX
PA
        (UYNE-) UNIV NEW SOUTH WALES.
XX
ΡI
       Kent SJ, Purcell DF, Boyle DB,
                                                            Ramsay A, Thomson S, Ramshaw IA;
XX
DR
       WPI; 2004-500267/47.
XX
       Eliciting or inducing in a mammal an immune response against HIV-I
PT
       subtype AE, B or C by administering sequential doses of a recombinant plasmid and viral vectors containing the nucleic acid molecules encoding
PT
PT
PT
        the HIV antigens.
XX
PS
       Claim 69; SEQ ID NO 3; 280pp; English.
The invention relates to a novel method for eliciting or inducing in a mammal an immune response directed to a virus, preferably Human immunodeficiency virus (HIV). The method comprises sequentially
        administering to the mammal one or more sequential doses of a recombinant
       plasmid vector or recombinant viral vector or its derivative, into which the nucleic acid molecules encoding all, part or a modified form of two
       or more antigens of the virus are incorporated, and one or more optimized CpG motifs, where the antigens have been rendered substantially non-pathogenic. The invention further comprises: a method for treating or
        preventing viral infection in a mammal; a method of vaccinating a mammal
       against a viral pathogen; a method of eliciting or inducing, in a mammal,
       an immune response directed to HIV; a vaccine capable of inducing an immune response directed to a virus comprising the recombinant plasmid vector or recombinant viral vector or its functional derivative; a nucleic acid construct or its functional derivative comprising the plasmid vector or recombinant viral vector; a plasmid vector; a
CC
CC
CC
\mathsf{CC}
CC
       recombinant viral vector; a pharmaceutical composition comprising the
\mathsf{CC}
        nucleic acid, plasmid vector or recombinant viral vector constructs. The
       method is useful in eliciting or inducing in a mammal an immune response against HIV-I subtype AE, B or C. This polynucleotide represents the DNA of a HIV subtype B vaccine sequence of the invention.
CC
CC
\mathsf{CC}
XX
SQ
        Sequence 10160 BP; 3150 A; 2051 C; 2469 G; 2490 T; 0 U; 0 Other;
                                        100.0%;
                                                     Score 24; DB 12; Length 10160; Pred. No. 1.2;
   Query Match
                                        100.0%; Pred. No. _
rive 0; Mismatches
   Best Local Similarity
                                                                              0;
   Matches
                  24; Conservative
                                                                                   Indels
                                                                                                    0; Gaps
                                                                                                                       0;
Qy
                   1 TCGTCGTTTCGTCGTTTTGTCGTT 24
                      11111111111111111111111
Db
              8917 TCGTCGTTTCGTCGTTTTGTCGTT 8940
RESULT 14
ADI16184
        ADI16184 standard; DNA; 23 BP.
ID
XX
AC
       ADI16184;
XX
        22-APR-2004 (first entry)
DT
XX
DE
        Immunostimulatory oligodeoxynucleotide SEQ ID NO:115.
XX
        ds; immunostimulatory; antibacterial; antiallergic; antiasthmatic; cytostatic; virucide; fungicide; antiparasitic; interleukin antagonist; gene therapy; infectious disease; allergy; asthma; cancer.
KW
KW
```

```
os
         Unidentified.
XX
         WO2004005476-A2.
PN
XX
PD
         15-JAN-2004.
XX
         03-JUL-2003; 2003WO-US021113.
PF
XX
         03-JUL-2002; 2002US-0393880P.
03-JUL-2002; 2002US-0394090P.
PR
PR
         03-JUL-2002; 2002US-0394091P.
03-JUL-2002; 2002US-0394164P.
03-JUL-2002; 2002US-0394193P.
PR
PR
PR
XX
PA
         (COLE-) COLEY PHARM GROUP INC.
XX
ΡI
         Krieg AM;
XX
DR
         WPI; 2004-091353/09.
XX
PT
         New immunostimulatory nucleic acid molecule composition comprising CpG
         motifs, useful for diagnosing, preventing and/or treating infectious diseases, allergies, asthma and cancers.
PT
PT
XX
PS
         Disclosure; SEQ ID NO 115; 257pp; English.
XX
         The invention relates to a novel composition comprising an immunostimulatory nucleic acid molecule. A composition of the invention has antibacterial, antiallergic, antiasthmatic, cytostatic, virucide, fungicide, and antiparatic activity. A composition may act as an interlegic antiparatic activity.
cc
CC
CC
CC
cc
         interleukin antagonist-4, or interleukin antagonist-5, and may have a use
         in gene therapy. The methods and compositions of the present invention are useful for diagnosing, preventing and/or treating infectious disease, allergy, asthma, cancer, where the infectious disease is a herpes simplex virus, bacterial, fungal or parasitic infection, and where the cancer is a biliary tract cancer, bone cancer, brain and CNS cancer, breast cancer, cervical cancer, choriocarcinoma, colon cancer, connective tissue cancer, endometrial cancer, described and cancer, agestic cancer.
CC
CC
CC
CC
CC
CC
         endometrial cancer, oesophageal cancer, eye cancer, gastric cancer, Hodgkin's lymphoma, intraepithelial neoplasms, larynx cancer, lymphomas, liver cancer, lung cancer (e.g. small cell and non-small cell), melanoma,
\mathsf{CC}
CC
CC
         neuroblastomas, oral cavity cancer, ovarian cancer, pancreas cancer, prostate cancer, rectal cancer, sarcomas, skin cancer, testicular cancer, thyroid cancer and renal cancer. The present sequence represents an
CC
CC
CC
CC
         immunostimulatory nucleic acid molecule of the invention.
XX
SQ
         Sequence 23 BP; 0 A; 5 C; 6 G; 12 T; 0 U; 0 Other;
                                                 95.8%; Score 23; DB 12; Length 23; 100.0%; Pred. No. 3.5;
   Query Match
   Best Local Similarity
                                                              0; Mismatches
   Matches
                      23; Conservative
                                                                                                 0; Indels
                                                                                                                           0; Gaps
                                                                                                                                                   0:
                      1 TCGTCGTTTCGTCGTTTTGTCGT 23
Qy
                      1 TCGTCGTTTCGTCGTTTTGTCGT 23
RESULT 15
ADI16179
         ADI16179 standard; DNA; 23 BP
ID
XX
AC
         ADI16179;
XX
DT
         22-APR-2004 (first entry)
XX
DE
         Immunostimulatory oligodeoxynucleotide SEQ ID NO:110.
XX
         ds; immunostimulatory; antibacterial; antiallergic; antiasthmatic; cytostatic; virucide; fungicide; antiparasitic; interleukin antagonist; gene therapy; infectious disease; allergy; asthma; cancer.
KW
KW
KW
XX
os
         Unidentified.
XX
PN
         WO2004005476-A2.
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XX

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PD
        15-JAN-2004.
XX
        03-JUL-2003; 2003wo-us021113.
PF
XX
PR
        03-JUL-2002; 2002US-0393880P.
       03-JUL-2002; 2002US-0394090P.
03-JUL-2002; 2002US-0394091P.
03-JUL-2002; 2002US-0394164P.
03-JUL-2002; 2002US-0394193P.
PR
PR
PR
PR
XX
PΑ
        (COLE-) COLEY PHARM GROUP INC.
XX
PΙ
        Krieg AM;
XX
       WPI; 2004-091353/09.
DR
XX
PT
        New immunostimulatory nucleic acid molecule composition comprising CpG
        motifs, useful for diagnosing, preventing and/or treating infectious diseases, allergies, asthma and cancers.
PT
PT
XX
PS
        Disclosure; SEQ ID NO 110; 257pp; English.
XX
CC
        The invention relates to a novel composition comprising an
CC
        immunostimulatory nucleic acid molecule. A composition of the invention
CC
        has antibacterial, antiallergic, antiasthmatic, cytostatic, virucide,
       fungicide, and antiparasitic activity. A composition may act as an interleukin antagonist-4, or interleukin antagonist-5, and may have a use in gene therapy. The methods and compositions of the present invention are useful for diagnosing, preventing and/or treating infectious disease, allergy, asthma, cancer, where the infectious disease is a herpes simplex virus, bacterial, fungal or parasitic infection, and where the cancer is a biliary tract cancer, bone cancer, brain and CNS cancer, breast cancer, corrective tissue cancer.
CC
CC
CC
\mathsf{CC}
CC
CC
CC
CC
        cervical cancer, choriocarcinoma, colon cancer, connective tissue cancer,
       endometrial cancer, oesophageal cancer, eye cancer, gastric cancer, Hodgkin's lymphoma, intraepithelial neoplasms, larynx cancer, lymphomas, liver cancer, lung cancer (e.g. small cell and non-small cell), melanoma,
CC
\mathsf{CC}
CC
CC
        neuroblastomas, oral cavity cancer, ovarian cancer, pancreas cancer,
CC
        prostate cancer, rectal cancer, sarcomas, skin cancer, testicular cancer, thyroid cancer and renal cancer. The present sequence represents an
CC
CC
        immunostimulatory nucleic acid molecule of the invention.
XX
        Sequence 23 BP; 0 A; 5 C; 6 G; 12 T; 0 U; 0 Other;
                                         95.8%; Score 23; DB 12; Length 23; 100.0%; Pred. No. 3.5;
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                   2 CGTCGTTTCGTCGTTTTGTCGTT 24
Qy
                       nh
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Search completed: December 31, 2005, 00:45:09
Job time: 270 secs
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SCORE 1.3 BuildDate: 12/06/2005

# SCORE Search Results Details for Application 10613739 and Search Result us-10-613-739-1.rge.

Score Home Page Retrieve Application List SCORE System Overview SCORE FAQ Comments / Suggestions

This page gives you Search Results detail for the Application 10613739 and Search Result us-10-613-739-1.rge.

start

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```
GenCore version 5.1.6
Copyright (c) 1993 - 2005 Compugen Ltd.
```

OM nucleic - nucleic search, using sw model

Run on:

December 31, 2005, 00:29:05; Search time 1720 Seconds

(without alignments)

793.164 Million cell updates/sec

Title:

US-10-613-739-1

Perfect score:

24

1 tcgtcgtttcgtcgttttgtcgtt 24

Scoring table:

IDENTITY\_NUC

Gapop 10.0 , Gapext 1.0

Searched:

Sequence:

5883141 segs, 28421725653 residues

Total number of hits satisfying chosen parameters:

11766282

Minimum DB seq length: 0

Maximum DB seg length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 0%

Listing first 45 summaries

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gb\_ba:\* gb\_in:\* gb\_env:\* gb\_om:\* gb\_ov:\* gb\_pat:\* gb\_pr:\* gb\_ro:\* 10: qb\_sts:\* 11: gb\_sy:\* gb\_un:\* 12: gb\_vi:\* 13: gb\_htg:\* 14:

GenEmbl:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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               93.3
                          24
                               6
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               93.3
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                                                                 BD069917 Use of nu
                          24
                               6
       22.4
 8
                          24
                               6
                                  BD205600
                                                                  BD205600 Method of
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               93.3
                          24
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VERSION
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KEYWORDS
SOURCE
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               synthetic construct
               other sequences; artificial sequences.
REFERENCE
  AUTHORS
               Davis, H.L. and Mccluskie, M.J.
               Immunostimulatory nucleic acid oil-in-water formulations and related methods of use Patent: WO 2004087203-A 150 14-00T 2004; S Coley Pharmaceutical Group, Ltd. (CA)
  TITLE
                                                                      16 in sure
  JOURNAL
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VERSION
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KEYWORDS
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REFERENCE
            Davis, H.L. and Mccluskie, M.J.
  AUTHORS
            Immunostimulatory nucleic acid oil-in-water formulations and
  TITLE
            related methods of use
            Patent: WO 2004087203-A 225 14-OCT-2004; Coley Pharmaceutical Group, Ltd. (CA)
  JOURNAL
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VERSION
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REFERENCE
  AUTHORS
            Vollmer,J., Jurk,M., Lipford,G.B., Schetter,C., Forsbach,A. and
            Krieg, A.M.
            Methods and products for identification and assessment of tlr
  TITLE
            Patent: wo 2004094671-A 142/04-NOV-2004: 1 189 112 groker of
  JOURNAL
            Coley Pharmaceutical GmbH (DE); Coley Pharmaceutical Group, Inc.
             (US)
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            24: Conservative
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                                                          Indels
                                                                      0; Gaps
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               Db
             1 TCGTCGTTTCGTCGTTTTGTCGTT 24
RESULT 4
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## SCORE Search Results Details for Application 10613739 and Search Result us-10-613-739-1.rst.

Score Home Page Retrieve Application List SCORE System Overview SCORE FAQ Comments / Suggestions

This page gives you Search Results detail for the Application 10613739 and Search Result us-10-613-739-1.rst. start

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OM nucleic - nucleic search, using sw model

Run on: December 31, 2005, 00:37:55; Search time 1908 Seconds

(without alignments)

588.517 Million cell updates/sec

Title: US-10-613-739-1

Perfect score: 24

Sequence: 1 tcgtcgtttcgtcgttttgtcgtt 24

Scoring table: IDENTITY\_NUC

Gapop 10.0 , Gapext 1.0

Searched: 41078325 seqs, 23393541228 residues

Total number of hits satisfying chosen parameters: 82156650

Minimum DB seq length: 0

Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0% Maximum Match 100%

Listing first 45 summaries

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7: gb\_est6:\*
8: gb\_est7:\*
9: gb\_gss1:\*
10: gb\_gss2:\*
11: gb\_gss3:\*

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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                                                                     AG050723 Pan trogl
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### **ALIGNMENTS**

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                                                                   GSS 30-AUG-2000
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            AZ183817
ACCESSION
VERSION
            AZ183817.1 GI:8356192
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            Echinoidea; Euechinoidea; Echinacea; Echinoida;
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REFERENCE
               (bases 1 to 850)
 AUTHORS
            Cameron, R.A., Mahairas, G., Rast, J.P., Martinez, P., Biondi, T.R.,
            Swartzell, S., Wallace, J.C., Poustka, A.J., Livingston, B.T.
            Wray, G.A., Ettensohn, C.A., Lehrach, H., Britten, R.J, Davidson, E.H.
            and Hood, L
  TITLE
            A sea urchin genome project: Sequence scan, virtual map, and
            additional resources
  JOURNAL
            Proc. Natl. Acad. Sci. U.S.A. 97 (17), 9514-9518 (2000)
            10920195
   PUBMED
COMMENT
            Contact: Cameron, RA, Davidson, EH, Hood, L
            Division of Biology 156-29
            California Institute of Technology
            Pasadena California 91125, USA
Tel: (626) 395-8421
            Fax: (626) 793-3047
            Email: acameron@caltech.edu
            Plate: 1002
                         row: C column: 15
            Seq primer: SP6
            Class: BAC ends
            High quality sequence stop: 850.
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### SCORE Search Results Details for Application 10613739 and Search Result us-10-613-739-1.rni.

Score Home Page Retrieve Application List SCORE System Overview SCORE FAQ Comments / Suggestions

This page gives you Search Results detail for the Application 10613739 and Search Result us-10-613-739-1.rni. start

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OM nucleic - nucleic search, using sw model

Run on:

December 31, 2005, 00:30:40; Search time 94 Seconds

(without alignments)

453.846 Million cell updates/sec

Title:

US-10-613-739-1

Perfect score: 24

Sequence:

1 tcgtcgtttcgtcgttttgtcgtt 24

Scoring table:

IDENTITY\_NUC

Gapop 10.0 , Gapext 1.0

Searched:

1303057 seqs, 888780828 residues

Total number of hits satisfying chosen parameters:

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Minimum DB seq length: 0
Maximum DB seq length: 2000000000

Post-processing: Minimum Match 0%

Maximum Match 100%

Listing first 45 summaries

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Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

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### **ALIGNMENTS**

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  APPLICANT:
               Krieg, Arthur M.
  APPLICANT:
               Schwartz, David A.
  TITLE OF INVENTION:
                        USE OF NUCLEIC ACIDS CONTAINING
  TITLE OF
           INVENTION:
                         UNMETHYLATED CpG DINUCLEOTIDE IN THE TREATMENT OF
  TITLE OF INVENTION:
                        LPS-ASSOCIATED DISORDERS
  FILE REFERENCE: C1039/7011
  CURRENT APPLICATION NUMBER: US/09/030,701B
                         1998-02-25
  CURRENT FILING DATE:
   PRIOR APPLICATION NUMBER: 60/039,405
  PRIOR FILING DATE: 1997-02-28
NUMBER OF SEQ ID NOS: 65
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